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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/973,125	10/08/2001	David G. Abdallah	FIREP9912142US	4715

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EXAMINER	
DEL SOLE, JOSEPH S	

ART UNIT	PAPER NUMBER
1722	

DATE MAILED: 12/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/973,125	ABDALLAH, DAVID G.	
	Examiner	Art Unit	
	Joseph S. Del Sole	1722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 October 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *19-22,24 and 35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *19-22,24 and 35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 19-21 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ible (4,300,878) in view of Miyazono et al (5,824,171).

Ible teaches an apparatus for making a material having an elastomeric sheet and a plurality of reinforcement elements embedded therein; the reinforcement elements are grouped in untwisted sets and each set contains a plurality of reinforcement elements; the apparatus has an extruder (Fig 5) and a die head (Fig 2, #40) into which the extruder extrudes an elastomeric material; the die head defines a die throat (Fig 2, #54) and includes a guide insert (Fig 5, #4) which guides the reinforcement elements into the die throat; wherein the guide insert has passages through which the reinforcement elements pass and which are arranged in a pattern corresponding to the arrangement of

the reinforcement elements in the reinforced ply material; wherein either a) the guide insert includes a passage for each set of reinforcement elements with the passages laterally spaced from each other a distance corresponding to an inter-set distance or b) the guide insert includes a passage for reinforcement elements and the passages are grouped in sets corresponding to the sets of reinforcement elements with the intra-set passages spaced apart a lateral distance corresponding to the intra-set distance (the intended use of the openings #7 of Idle to guide a single element does not preclude the openings #7 to be used to guide a set of elements as claimed in claim 18, thus Idle teaches the structure set forth by claim 18); and wherein the passages are circular in cross-section shape.

Idle fails to teach the pattern being such that reinforcement elements in the same set are spaced apart an intra-set distance and adjacent reinforcement elements in different sets are spaced apart an inter-set distance wherein the inter-set distance is greater than the intra-set distance; the lateral distance between passages being between about .20mm and about .50 mm; the lateral distance between passages being between about 0.30 mm and 0.45 mm; and the distance between the intra-set passages being between about 0.11 mm and about 0.13 mm, and wherein the distance between inter-set passages is between about 0.13 and about 0.23 mm.

Miyazono et al teach an elastomeric sheet made with a plurality of reinforcement elements embedded therein wherein the reinforcement elements are grouped in sets with each set containing a plurality of reinforcement elements, wherein the lateral distance between inter-set groups of elements is between about 0.30 mm and 0.45 mm

(col 7, Table 1, intra-table col 4, value 3 is 0.42 mm) and further wherein the distance between intra-set elements is between about 0.11 and 0.13 mm (col 9, Table 4, intra-table col 3, value 4 is 0.14 mm and col 10, lines 51-58) and the distance between inter-set elements is between about 0.13 and about 0.23 (col 9, Table 4, intra-table col 4, value 4 is 0.18 mm) for the purpose of forming tires without degrading the durability due to growth and propagation of fine cracking (col 2, lines 24-31).

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the extrusion apparatus of Idle with the materials extruded as taught by Miyazono and to modify the guide inserts of Idle having passages spaced to produce the element spacing as taught by Miyazono because it enables tires of improved durability to be produced.

4. Claims 19-21 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kiemer (4,274,821) in view of Miyazono et al (5,824,171).

Kiemer teaches an apparatus for making a material having an elastomeric sheet and a plurality of reinforcement elements embedded therein; the reinforcement elements are grouped in untwisted sets and each set contains a plurality of reinforcement elements; the apparatus has an extruder (Fig 4, #10) and a die head (Fig 2, #12) into which the extruder extrudes an elastomeric material; the die head defines a die throat (Fig 2) and includes a guide insert (Fig 2, #25) which guides the reinforcement elements into the die throat; wherein the guide insert has passages through which the reinforcement elements pass and which are arranged in a pattern corresponding to the arrangement of the reinforcement elements in the reinforced ply

material; wherein either a) the guide insert includes a passage for each set of reinforcement elements with the passages laterally spaced from each other a distance corresponding to an inter-set distance or b) the guide insert includes a passage for reinforcement elements and the passages are grouped in sets corresponding to the sets of reinforcement elements with the intra-set passages spaced apart a lateral distance corresponding to the intra-set distance (the intended use of the openings #26 of Kiemer to guide a single element does not preclude the openings #26 to be used to guide a set of elements as claimed in claim 18, thus Kiemer teaches the structure set forth by claim 18); and wherein the passages are circular in cross-section shape.

Kiemer fails to teach the pattern being such that reinforcement elements in the same set are spaced apart an intra-set distance and adjacent reinforcement elements in different sets are spaced apart an inter-set distance wherein the inter-set distance is greater than the intra-set distance; the lateral distance between passages being between about .20mm and about .50 mm; the lateral distance between passages being between about 0.30 mm and 0.45 mm; and the distance between the intra-set passages being between about 0.11 mm and about 0.13 mm, and wherein the distance between inter-set passages is between about 0.13 and about 0.23 mm.

Miyazono et al teach an elastomeric sheet made with a plurality of reinforcement elements embedded therein wherein the reinforcement elements are grouped in sets with each set containing a plurality of reinforcement elements, wherein the lateral distance between inter-set groups of elements is between about 0.30 mm and 0.45 mm (col 7, Table 1, intra-table col 4, value 3 is 0.42 mm) and further wherein the distance

between intra-set elements is between about 0.11 and 0.13 mm (col 9, Table 4, intra-table col 3, value 4 is 0.14 mm and col 10, lines 51-58) and the distance between inter-set elements is between about 0.13 and about 0.23 (col 9, Table 4, intra-table col 4, value 4 is 0.18 mm) for the purpose of forming tires without degrading the durability due to growth and propagation of fine cracking (col 2, lines 24-31).

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the extrusion apparatus of Kiemer with the materials extruded as taught by Miyazono and to modify the guide inserts of Kiemer having passages spaced to produce the element spacing as taught by Miyazono because it enables tires of improved durability to be produced.

5. Claims 22 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ible (4,300,878) and Miyazono et al (5,824,171) in view of Ferrentino et al (4,132,756).

Ible and Miyazono et al teach the apparatus as discussed above.

Ible fails to teach the passages being rectangular in cross-section shape.

Ferrentino et al teach passages (Fig 4, #43) for elements wherein the passages are rectangular in cross-section shape for the purpose of producing force components such that the elements maintain pre-established distances.

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the apparatus of Ible with rectangularly cross-sectioned passages as taught by Ferrentino et al because it assists in the maintenance of pre-established distances between elements.

6. Claims 22 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kiemer (4,274,821) and Miyazono et al (5,824,171) in view of Ferrentino et al (4,132,756).

Kiemer and Miyazono et al teach the apparatus as discussed above.

Kiemer fails to teach the passages being rectangular in cross-section shape.

Ferrentino et al teach passages (Fig 4, #43) for elements wherein the passages are rectangular in cross-section shape for the purpose of producing force components such that the elements maintain pre-established distances.

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the apparatus of Kiemer with rectangularly cross-sectioned passages as taught by Ferrentino et al because it assists in the maintenance of pre-established distances between elements.

Response to Arguments

7. Applicant's arguments filed 10/27/04 have been fully considered but they are not persuasive.

The Applicant argues that the combination of either Ible or Kiemer with Miyanzono is inappropriate. He argues that the tires of Miyanzono are taught to be manufactured by calendaring, not extrusion.

The Examiner disagrees. It is not a structural feature of the apparatus of Miyanzono that is combined with the apparatuses of Ible and Kiemer but rather a combination of the apparatuses of Ible and Kiemer to produce the product taught by Miyanzono. The final products produced by Ible and Kiemer differ from Miyanzono only

in the placement of the reinforcing elements. It is obvious to modify the apparatuses of Ible and Kiemer such that the openings are grouped such that the reinforcement elements would be placed as taught by Miyanzono.

The Applicant argues that the it would not be obvious to combine the prior art with Ferrentino to teach rectangular passages. He argues that rectangular passages are not taught per se, but rather it is an overall die configuration to produce force components such that the elements maintain pre-established distances.

The Examiner disagrees. Rectangular passages are a feature taught by Ferrentino to achieve a certain desired result when used with a extrusion die. While the rectangular passages are not the only structural differences between the die of Ferrentino and the dies of Ible and Kiemer respectively, it would be obvious to combine the features of Ible and Kiemer as recited in the Applicant's claims with the features of Ferrentino in an attempt to achieve the desired results taught by Ferrentino. Such an obvious combination teaches the Applicant's apparatus as claimed.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Correspondence

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Joseph S. Del Sole whose telephone number is (571) 272-1130. The examiner can normally be reached on Monday through Friday from 8:30 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Benjamin Utech, can be reached at (571) 272-1137. The official fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306 for both non-after finals and for after finals.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from the either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on the access to the Private PAIR system, contact the Electronic Business Center (EBC) at 886-217-9197 (toll-free).

Joseph S Del Sole

J.S.D.
December 8, 2004